



JE  
AF

PATENT  
32860-000181/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Robert BOESNECKER CONF. NO.: 8899  
SERIAL NO.: 10/030,870 GROUP: 2615  
FILED: October 19, 2001 EXAMINER: Faulk, Devona E.  
FOR: FLAT SURFACE LOUDSPEAKER AND METHOD FOR  
OPERATING THE SAME

**APPELLANTS' REPLY BRIEF UNDER 37 C.F.R. § 41.41**

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314  
**Mail Stop Appeal Briefs - Patents**

September 11, 2008

Sir:

In response to Appellant's Brief originally filed November 21, 2007, the Examiner has issued an Examiner's Answer (hereinafter "the Answer"). Appellant responds to the Examiner's rebuttal as follows.

**REMARKS**

**I. Regarding the Examiner's Rebuttal Arguments Beginning on page 7 of the Answer...**

In response to Appellant's argument that the Examiner has failed to provide sufficient reason to combine Azima and Mäkivirta, beginning on page 7 of the Answer, the Examiner states:

...Makivirta only failed to teach of a flat panel speaker. A flat panel loudspeaker is a type of one-way loudspeaker. The motivation to combine...was found in Azima. Azima teaches that a flat panel loudspeaker produces a more superior output over that of a conventional speaker (Azima; column 4, lines 61-62).

The Examiner again directs Appellant's attention to column 4, lines 61-62 of Azima for supporting that a person having ordinary skill in the art (PHOSITA) would have been motivated to combine Azima and Mäkivirta to arrive at the method of claim 1. Appellant continues to disagree.

Column 4, lines 61-62 of Azima state:

...the panel speaker promotes a superior stereo effect compared to conventional speakers.

But, the Examiner fails to consider the context of this statement in Azima, and also fails to consider what this statement is intended to mean.

While Azima does boast that his invention provides, "superior stereo effect compared to conventional speakers," this advantage is not characterized by the fact that the speaker is a flat panel speaker *per se*, but instead by "a second transducer coupled to the radiator to produce a signal in response to resonance of the radiator due to incident acoustic energy."<sup>1</sup> In other words, Azima's alleged superior stereo effect is not a result of the speaker being a flat panel speaker. Therefore, the Examiner's reliance on Azima to conclude that a PHOSITA would modify the teachings of Mäkivirta such that the speaker was a flat panel speaker because such a modification would produce a more superior output is incorrect.

For at least this reason, Appellant disagrees with the Examiner's rebuttal arguments.

**II. Regarding the Examiner's Rebuttal Arguments Beginning on page 8 of the Answer...**

In response to Appellant's argument that, even if combined, Azima and Mäkivirta fail to render claim 1 obvious, beginning on page 8 of the Answer, the Examiner states:

...Column 5, lines 20-26 of Mäkivirta [is relied upon] to teach the measuring step...Therefore, Mäkivirta teaches of measuring the acoustic frequency response of the loudspeaker...

---

<sup>1</sup> Azima at 1:64-1:66.

Makivirta does not disclose that the one-way loud speaker is a flat panel loudspeaker or of emitting sound by the surface stimulated to oscillate mechanically by the oscillating coil. Azima is cited as disclosing a one-way loudspeaker, a flat-panel loudspeaker, in which at least one oscillating coil (9 transducer) is mounted on a surface in the form of a plate (sound radiating panel)...comprising: stimulating at least one coil to oscillate electrically by a sound source (column 5, lines 15-17) and emitting sound by the surface [stimulated] to oscillate mechanically by the oscillating coil. Azima...teach that "The panel is driven to resonate and produce an acoustic output by a transducer of the kind described above with reference to our co-pending application Ser. No. 09/011773, 09/011770 and 09/011831."

While Azima arguably discloses measuring signal correction, the measured signal correction is applied only to the microphone use of the panel not loudspeaker use. Azima is silent about the details of the correction method performed by the filter/correlator (64) driven by a vibration transducer (63) during *loudspeaker use* of the panel (2). Therefore, a PHOSITA would be unable to conclude with any certainty that the measured signal correction would apply in the same manner to the loudspeaker use of the panel (2), and a PHOSITA would not see it obvious to do so.

Moreover, Azima fails to teach how a signal is corrected and how that correction is applied to the input signal of the panel (2) when used as a loudspeaker. Therefore, Azima fails to teach or suggest at least, "emitting sound by the surface stimulated to oscillate mechanically by

the oscillating coil," and "measuring the acoustic frequency response of this flat surface loudspeaker," as required by claim 1.

Turning to the teachings of Mäkivirta, although Mäkivirta implies that a frequency response is measured, Mäkivirta fails to teach or fairly suggest that such a frequency response is measured from a sound emitted from the flat panel loud speaker. Therefore, Mäkivirta also fails to teach or suggest "emitting sound by the surface stimulated to oscillate mechanically by the oscillating coil," and "measuring the acoustic frequency response of this flat surface loudspeaker," as required by claim 1.

Because neither reference teaches or suggests the above recited feature of claim 1, the combination of references does not render claim 1 obvious.<sup>2</sup>

**III. Regarding the Examiner's Rebuttal Arguments Beginning on page 11 of the Answer...**

Beginning on page 11 of the Answer, the Examiner rebuts Appellant's arguments that a PHOSITA would have no reason to combine and would have been lead away from the Examiner's alleged combination, stating on page 12 of the Answer:

---

<sup>2</sup> Again, this statement is made assuming *arguendo* such a combination could be made, which Appellant does not admit.

The benefits of [Azima's flat panel speaker is] that they produce better sound. One of ordinary skill in the art would have been able to apply Makivirta's method to a flat panel speaker and expect to produce a better sound...

The fact that Azima teaches of optimizing the acoustic output by placing a transducer on or in a panel at a predetermined location and that Azima mentions signal correction in connection to the loudspeaker use of the panel does not teach away from Makivirta...[because applying] Makivirta's method to a flat panel speaker [would] produce a better sound.

In the first portion of the rebuttal, the Examiner essentially argues one a PHOSITA would modify Mäkiavirta's speaker to be a flat panel speaker because doing so would produce a better speaker.<sup>3</sup> But the Examiner fails to realize that *the speakers in Mäkiavirta and Azima are two distinctly different types of speakers*. Therefore, a PHOSITA would not expect that modifying Mäkiavirta to apply to a *completely different speaker* (i.e., the flat panel speaker of Azima) would produce better sound or a superior speaker. For this reason, Appellant disagrees with the Examiner's rebuttal.

Regarding the second portion of the rebuttal, the Examiner argues that his conclusion that combining Makivirta and Azima would produce better sound outweighs Azima's disclosure of the manner in which to optimize sound-output in Azima.

---

<sup>3</sup> Answer at 12.

The Examiner fails to give sufficient weight to Azima's disclosure to optimize the acoustic output by placing a transducer (9) on or in a panel at a predetermined location. According to Azima, sound-output is best if the position of the transducer (9) is calculated as described in U.S. patent applications with serial nos. 09/011,773, 09/011,770 and 09/011,831. When considering this disclosure, a PHOSITA would, at most, be lead to the teachings of these applications to optimize the acoustic output of a flat panel speaker, but clearly away from Appellant's invention.

Furthermore, Azima mentions signal correction only in connection with the microphone use of the panel, but not for the loudspeaker use of the panel. Thus, while a PHOSITA may arguably be directed to utilizing signal correction in microphone use of the panel, a PHOSITA would also recognize the distinct differences between microphone use and loudspeaker use of a panel (e.g., input rather than output). These differences in mind, a PHOSITA would not be lead to believe that combining Mäkivirta and Azima would provide superior acoustic output of a flat panel loudspeaker, as the Examiner would have Appellant believe.

**IV. Regarding the Examiner's Failure to Provide the Requisite Rational Explanation to Support the Obviousness Rejection...**

On page 13 of the Answer, in response to Appellant's argument that the Examiner has not provided the requisite rational explanation to support the obviousness rejection of claim 1, the Examiner points to the teaching, suggestion, motivation doctrine.

As previously explained, this rationale requires that, "a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and that there would have been a reasonable expectation of success."<sup>4</sup> Courts view the teaching, suggestion, or motivation test as flexible and implicit reasons to combine the prior art are sufficient. Implicit reasons may be found "not only when a suggestion may be gleaned from the prior art as a whole, but when the 'improvement' is technologically independent and the combination of references results in a product that is more desirable, for example, because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient."<sup>5</sup>

Appellant continues to submit that the Examiner cannot rely upon this rationale to support his conclusion that claim 1 is obvious over Mäkivirta and Azima, because *the suggestion is not present in the*

---

<sup>4</sup> DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co., 464 F.3d 1356, 1360, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006).

<sup>5</sup> Id. at 1368, 80 USPQ2d at 1651.



*references, and the improvement is not technology independent.*

Moreover, the resultant combination results in an unpredictable result.

As discussed above, the Examiner refers Appellants to column 4, lines 61-62 of Azima arguing that a PHOSITA would modify the teachings of Mäkivirta such that the speaker was a flat panel speaker because such a modification would produce a more superior output.<sup>6</sup> This portion of Azima fails to teach or suggest that merely substituting the flat panel speaker of Azima would achieve such a result.

While Azima does boast that his invention provides, "superior stereo effect compared to conventional speakers," which advantage is not characterized by the fact that the speaker is a flat panel speaker, but instead by "a second transducer coupled to the radiator to produce a signal in response to resonance of the radiator due to incident acoustic energy."<sup>7</sup> In other words, Azima's alleged superior stereo effect results from the two transducers, but not by the mere fact that the speaker is a flat panel speaker. Therefore, the Examiner's reliance on Azima to conclude that a PHOSITA would modify the teachings of Mäkivirta such that the speaker was a flat panel speaker because such a modification would produce a more superior output is incorrect.

---

<sup>6</sup> Answer at 13.

<sup>7</sup> Azima at 1:64-1:66.

Moreover, as argued *supra*, the method of claim 1 provides the ability to maintain sound quality of a flat surface loudspeaker, while lifting the constraints on the shape and material usable as the sound-emitting surface, which would not have been expected by a PHOSITA at the time of the invention.

For at least the foregoing reasons, claim 1 is not rendered obvious by Mäkivirta and/or Azima, taken singly or in combination. The arguments set forth *infra* apply equally to independent claim 4, and thus, claim 4 is also patentable over Azima and Mäkivirta. Dependent claims 2-6, 8 and 10 are patentable over Mäkivirta and Azima at least by virtue of their dependency from claims 1 or 4.

The Answer does not include any recitation or discussion of the rejection of claims 7, 9, 11 and 12 in view of Makivirta, Azima, and Smith. Appellant's can only assume that this was a minor oversight by the Examiner and that the rejection of these claims remain in force. If otherwise, Appellant requests that the Examiner indicate such.

Regardless, however, for reasons set forth above, claims 1-6, 8 and 10 are not obvious over Mäkivirta and Azima, taken singly or in combination. The Examiner further relies upon Smith to teach the features of claims 7, 9, 11 and 12, which are absent from Mäkivirta and Azima. However, from even a cursory review, one can appreciate that Smith fails to make up for the deficiencies, nor provide reason to

combine Azima and Mäkivirta, and thus, does not further the rejection of claims 1 or 4. Consequently, claims 7, 9, 11 and 12 are patentable over Azima, Mäkivirta and/or Smith.

**CONCLUSION**

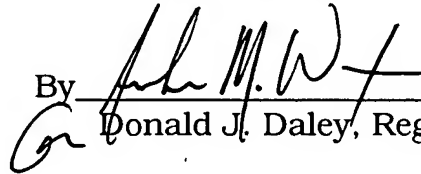
In light of the foregoing arguments, Appellant respectfully requests the Board to reverse the Examiner's rejection of claims 1-12.

The Commissioner is authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, PLC

By

 #56,007  
Donald J. Daley, Reg. No. 34,313

DJD/AMW:aem

P.O. Box 8910  
Reston, VA 20195  
(703) 668-8000